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THE TYPE SPECIMENS OF *PANICUM ROANOKENSE* (POACEAE)

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ABSTRACT

Four specimens at NCU originally determined by W.W. Ashe to be *Panicum roanokense* have been designated as the holotype, an isotype, and two paratypes. Two of the three specimens identified as *Panicum roanokense* in the U.S. National Herbarium Type Register have been determined not to be types, while the third specimen is confirmed to be a paratype, as currently designated.

An examination of collections of *Panicum roanokense* Ashe at the U.S. National Herbarium (US) and University of North Carolina Herbarium (NCU), where many of Ashe's original collections are housed, has resulted in new designations and changes in designations of holotype, isotype, and paratype specimens for this taxon now treated as *Dichanthelium dichotomum* (L.) Gould subsp. *roanokense* (Ashe) Freckmann & Lelong (2002) in Freckmann and Lelong (2003), and *D. dichotomum* var. *roanokense* (Ashe) LeBlond (LeBlond 2001) in Weakley (2010). These changes are made in accordance with data in the protologue (Ashe 1898) and Hitchcock and Chase (1910) and are summarized in Tables 1 and 2.

Ashe based his new species on specimens he collected in North Carolina at Roanoke Island in Dare County, and at two sites near Lake Mattamuskeet in Hyde County. In the protologue, Ashe wrote: "Type material collected by writer in dry soil, Roanoke Island, N.C. June, 1898; also collected at Rose Bay and Mackleyville, N.C., the same month."

In their 1910 treatment of *Panicum roanokense*, Hitchcock and Chase wrote: "The type could not be found in Ashe's herbarium. In the Biltmore Herbarium is a specimen from Manteo, Roanoke Island, N.C., collected by Ashe, June 10, 1898, and labeled by him as *Panicum roanokense* Ashe. This is a duplicate type or possibly the type." Regarding Ashe's personal herbarium, Hitchcock and Chase wrote: "Mr. Ashe kindly loaned a portion of the collection of *Panicum* in December, 1905. A second portion was sent in February, 1908. Certain of Mr. Ashe's type specimens were not included in either of those loans, but they may become accessible at some future time." Many of the panicums in Ashe's herbarium were received by NCU directly from his estate within a year of his death in 1932.

The Biltmore specimen studied by Hitchcock and Chase has not been relocated, but at NCU is an Ashe specimen (NCU 17962) labeled "*Panicum Roanokense* / type" (I have added the slash to represent a line break) in Ashe's handwriting. Printed on the label is "Plants of the Southern United States" in all caps, which is standard on Ashe labels. "W.W. Ashe, Collector" is also printed on the label, but there is no collection number (also standard for Ashe), no date (even year is missing), and no location data. It is the only specimen known to be designated by Ashe himself as a type for *P. roanokense* and is here regarded as the holotype, with collection and location data as stated in the protologue.

NCU specimen 17963 contains label information similar to that of the specimen Ashe designated as the holotype. Added in print is "on or near the coast of North Carolina June 10 – July 6, 1898." In Ashe's handwriting is: "*Panicum Roanokense* Ashe / Manteo." This label is typical of Ashe's dating method, showing a range of dates rather than a specific date. The location data, "Manteo," a town on

Roanoke Island, is a little more precise than in the protologue. This specimen is regarded here as an isotype even though the collection date is imprecise and the location somewhat vague. This is in keeping with the treatment of presumed "duplicate" types (isotypes) for other Ashe *Panicum* taxa by Hitchcock and Chase that continue to be accepted today, including those for *Panicum lucidum* Ashe, *P. mattamuskeetense* Ashe, and *P. maculatum* Ashe (a synonym of *P. yadkinense* Ashe).

The label data on NCU specimen 17963, the isotype, corresponds with that on the missing Biltmore Herbarium specimen cited by Hitchcock and Chase, except for the date, which they report was "June 10, 1898." This "date" may well have been similar to that shown on US specimen 722467 (discussed below). Ashe typically did not give an actual collection date but instead provided a range of dates corresponding with the beginning and end dates of the expedition, in this case "June 10 – July 6, 1898." In US specimen 722467, "July 6" is crossed out in ink, possibly by Ashe. The deletion of "July 6" on this label could suggest that "June 10" is the collection date, but since this is the beginning date of the range of dates on the label, that seems unusually coincidental, especially considering the absence of precise dates on Ashe labels in general. A specific date resulting from a striking out of one date in a range of dates should be regarded with suspicion, if not disregarded altogether. If the "June 10, 1898" date on the missing Biltmore Herbarium specimen resulted from the crossing out of "July 6" by Ashe himself, perhaps it was the month "July" he was eliminating, to correspond with the "June, 1898" collection date in the protologue. That may also have been the purpose of the cross-out in US specimen 722467.

NCU specimens 24095 and 356878 have labels nearly identical to that of NCU specimen 17963, differing only by location, with "Rose Bay" in place of "Manteo." These specimens are here regarded as paratypes, as Rose Bay is one of the three cited locations in the protologue.

In the US Type Register are three specimens identified as types for *Panicum roanokense*, one as an isotype (No. 722467), one as a "possible isotype" (No. 967961), and one as a paratype (No. 970167). Only the paratype appears to correspond with the interpretation of types regarded here as correct.

The label of US specimen 722467, annotated as an isotype, indicates it was collected by Ashe from Roanoke Island, with a printed date of "June 10 – July 6, 1898." As noted above, "July 6" is crossed out in ink. This specimen was originally annotated by Ashe as "*Panicum arenicolum* Ashe" (correctable to *P. arenicola*), and there is no later annotation by Ashe himself to *P. roanokense*. This rules out the specimen as an isotype, since Ashe did not consider it to be *P. roanokense* when he prepared the protologue. It was subsequently annotated to *P. roanokense* by Hitchcock and Chase during their revision of *Panicum* and was annotated as an isotype by R.J. Soreng in 2001. *Panicum arenicola* is a synonym of *Dichanthelium aciculare* Desv. ex Poir. var. *aciculare*. The spikelets in this specimen are 1.7–1.8 mm long and first glumes are 0.4–0.5 mm long, both shorter than those typical of specimens treated as *Panicum roanokense*. The plant is bluish- to purplish–green, and the panicle is narrow and short-exserted. These characters place the specimen in *Dichanthelium caerulescens* (Hackel ex Hitchcock) Correll, and I annotated it as such on 27 Aug 2001 (chronologically after Soreng). The basionym *Panicum caerulescens* Hackel ex Hitchcock was not described until 1909, and this specimen may well have been annotated by Hitchcock and Chase to *P. roanokense* prior to recognition of *P. caerulescens*.

US specimen 967961, annotated as a "possible isotype," is from the Biltmore Herbarium but is not the one cited by Hitchcock and Chase. It was originally labeled by Ashe in his handwriting as "*Panicum dichotomum*, Roanoke Island, N.C., June 1898." It was subsequently annotated as *Panicum dichotomum* L. by Hitchcock and Chase (1910) during their revision of *Panicum*. In 2001 (prior to Aug. 27), Soreng added the note "Possibly type material Panicum roanokense." On 27 Aug 2001, I annotated

the specimen to *Dichanthelium dichotomum* var. *roanokense*. Since this specimen was not regarded as *P. roanokense* by Ashe, it could not be among those specimens cited in the protologue as representing his concept of the new taxon.

US specimen 970167 was originally labeled by Ashe in his handwriting as "*Panicum roanokense* Ashe / Rose Bay," with the pre-printed date range of "June 10 – July 6, 1898." Handwritten above the label is the note "Same as *P. curtivaginum* Ashe / H&C," a name subsequently placed in synonymy with *P. roanokense* by Hitchcock and Chase. Soreng annotated the specimen as a paratype in 2001, and I annotated the specimen to *Dichanthelium dichotomum* var. *roanokense* on 27 Aug 2001 (chronologically after Soreng). The data handwritten by Ashe on this specimen correspond with the data in the protologue for Rose Bay, and this specimen is a valid paratype. It likely is from the same collection as paratype specimens Nos. 24095 and 356878 at NCU. Of interest, also appearing on the US sheet is the note "spikelet drawn / AC." On page 196 of the 1910 Hitchcock and Chase treatment of *Panicum* is an illustration of the *P. roanokense* spikelet with this caption: "From specimen collected by Ashe at Rose Bay."

Table 1. *Panicum roanokense* type specimens at University of North Carolina Herbarium (NCU). Specimens 24095 and 356878 have identical Ashe label data. The Ashe name is the name given to the specimen by Ashe himself. Under reannotations, the annotater's name and year of annotation is listed in parentheses.

	NCU specimen 17962	**NCU specimen 17963**	**NCU specimens 24095, 356878**
Ashe name	*Panicum roanokense*	*Panicum roanokense*	*Panicum roanokense*
Reannotations	*Dichanthelium dichotomum* var. *roanokense* (LeBlond 2008)	*Dichanthelium dichotomum* var. *roanokense* (LeBlond 2008)	*Dichantheliumdichotomum* var. *roanokense* (LeBlond 2008)
Type	holotype	isotype	paratypes

Table 2. The status of specimens treated as *Panicum roanokense* types in the US National Herbarium Type Specimen Register. The Ashe name is the name given to the specimen by Ashe himself. Under reannotations, the annotater's name and year of annotation is listed in parentheses. Soreng annotations made in 2001 are earlier than those made by LeBlond in the same year.

	US specimen 722467	**US specimen 967961**	**US specimen 970167**
Ashe name	*Panicum arenicolum*	*Panicum dichotomum*	*Panicum roanokense*
Reannotations	*P. roanokense* (Hitchcock & Chase n.d.), Soreng 2001), *Dichanthelium caerulescens* (LeBlond 2001)	*P. dichotomum* (Hitchcock & Chase n.d.), *P. roanokense* (Soreng 2001), *Dichanthelium dichotomum* var. *roanokense* (LeBlond 2001)	*Dichanthelium dichotomum* var. *roanokense* (LeBlond 2001)
US type assignment	isotype	possible isotype	paratype
Type reassignment	not a type	not a type	paratype

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LITERATURE CITED

Ashe, W.W. 1898. The dichotomous group of *Panicum* in the eastern United States. J. Elisha Mitchell Sci. Soc. 15: 22–62.

Freckmann, R.W. and M.G. Lelong. 2002. Nomenclatural changes and innovations in *Panicum* and *Dichanthelium* (Poaceae: Paniceae). Sida 20: 161–174.

Freckmann, R.W. and M.G. Lelong. 2003. *Dichanthelium*. *In* Flora of North America Editorial Committee (eds.). Flora of North America North of Mexico 25: 406–450.

Hitchcock, A.S., and A. Chase. 1910. The North American Species of *Panicum*. Contr. U.S. Natl. Herb. 15: 1–396.

LeBlond, R.J. 2001. Taxonomy of the Dichotoma group of *Dichanthelium* (Poaceae). Sida 19: 821–837.

Weakley, A.S. 2010. Flora of the Southern and Mid-Atlantic States, working draft of March 2010. Univ. of North Carolina Herbarium, Chapel Hill , NC .